CLAIMS:

What is claimed is:

1. A method, operable in a data processing system having a plurality of processes, for performing a communication connection, comprising the steps of:

sending a communication management request from a first process within the plurality of processes via a communication establishment message to an adapter associated with a second process within the plurality of processes;

retrieving the communication establishment request, under control of the adapter, via the communication establishment message from the host; and

responsive to the second process within the plurality of processes allowing the communication management request, initiating, under control of the adapter, multiple communication connections and unreliable datagram resolutions.

2. The method as recited in claim 1, wherein the first process within the plurality of processes is an active side of the process.

3. The method as recited in claim 1, wherein the second process within the plurality of processes is a passive side of the process.

4. The method as recited in claim 1, further comprising:

posting the communication establishment request for multiple communication connections and unreliable datagram resolutions to a send queue of a queue pair associated with the first process within the plurality of processes as a work request; and

requesting communication for multiple connections and unreliable datagram resolutions between a first host channel adapter and a second host channel adapter using a communication establishment message in the communication management request.

5. The method as recited in claim 4, wherein the first host channel adapter is a host channel adapter.

6. The method as recited in claim 4, wherein the second host channel adapter is a destination host channel adapter.

7. The method as recited in claim 4, further comprising:

converting the multiple connections and unreliable datagram resolutions work requests into a work queue element by a channel interface; and

placing the multiple connections and unreliable datagram resolutions work queue element on an active side communication management service send queue.

8. The method as recited in claim 1, further comprising:

determining the first process within the plurality of processes has received a multiple connections and unreliable datagram resolutions reply message from the

second process within a specified period of time;

passing the multiple connections and unreliable datagram resolutions reply message to the first process within the plurality of processes; and

processing the multiple connections and unreliable datagram resolutions reply message.

9. The method as recited in claim 1, further comprising:

determining the first process within the plurality of processes has not received a multiple connections and unreliable datagram resolutions reply message from the second process within a specified period of time; and

aborting a multiple connections and unreliable datagram resolutions communication establishment process.

10. The method as recited in claim 1, further comprising:

responsive to a multiple connections and unreliable datagram resolutions reply message being received by the first process within the plurality of processes, creating a multiple connections and unreliable datagram resolutions communication management message; and

posting the multiple connections and unreliable datagram resolutions communication management message as a work request on a communication management send queue associated with the first process within the plurality of processes.

11. The method as recited in claim 10, wherein the multiple connections and unreliable datagram resolutions communication management message is a multiple

connections and unreliable datagram resolutions "ready to use" communication management message.

12. The method as recited in claim 10, further comprising:

converting, by a channel interface, the multiple connections and unreliable datagram resolutions work request into a work queue element;

processing, by a channel adapter, the work request; and

sending the multiple connections and unreliable datagram resolutions communication management message to the second process within the plurality of processes.

13. A method, operable in a data processing system having a plurality of processes, for performing a multiple connections and unreliable datagram resolutions communication connection, comprising the steps of:

receiving a communication management request from a first process within the plurality of processes via a communication establishment request for multiple connections and unreliable datagram resolutions message to an adapter associated with a second process within the plurality of processes;

sending a multiple connections and unreliable datagram resolutions reply communication establishment message, under control of the adapter, to the first process within the plurality of processes; and

responsive to the second process within the plurality of processes receiving the multiple connections and unreliable datagram resolutions reply communication establishment message from the first process within the

plurality of processes, establishing multiple communication connections between the first process within the plurality of processes and the second process within the plurality of processes.

14. The method as recited in claim 13, further comprising:

placing the multiple connections and unreliable datagram resolutions communication establishment request message in a receive queue of communication manager associated with the second process within the plurality of processes; and

passing the multiple connections and unreliable datagram resolutions communication establishment request message to the second process within the plurality of processes.

15. The method as recited in claim 13, further comprising:

posting the multiple connections and unreliable datagram resolutions reply communication establishment message as a work request on a communication management send queue associated with the second process within the plurality of processes; and

converting the work request into a work queue element by a channel interface.

16. The method of claim 13, wherein the multiple connections and unreliable datagram resolutions are considered established when the passive side receives one of a message from at least one established connection and a "ready to use" message.

17. A system, comprising:

a bus system;

a communications unit connected to the bus system;

a memory, including a set of instructions, connected to the bus system; and

a processing unit connected to the bus system, wherein the processing unit includes at least one processor, wherein the processing unit executes the set of instructions to send a communication management request, via the communications unit, from a first process within the plurality of processes via a communication establishment message to an adapter associated with a second process within the plurality of processes, retrieve the communication establishment request, under control of the adapter, via the communication establishment message from the host, and responsive to the second process within the plurality of processes allowing the communication management request, initiates, under control of the adapter, multiple communication connections and unreliable datagram resolutions.

18. A system, comprising:

a bus system;

a communications unit connected to the bus system;

a memory, including a set of instructions, connected to the bus system; and

a processing unit connected to the bus system, wherein the processing unit includes at least one processor, wherein the processing unit executes the set of instructions to receive a communication management

request, via the communications unit, from a first process within the plurality of processes via a communication establishment request message to an adapter associated with a second process within the plurality of processes,sends a reply communication establishment message, under control of the adapter, to the first process within the plurality of processes, and responsive to the second process within the plurality of processes receiving the reply communication establishment message from the first process within the plurality of processes, establishes multiple communication connections and unreliable datagram resolutions between the first process within the plurality of processes and the second process within the plurality of processes.

19. A system, operable in a data processing system having a plurality of processes, for performing a communication connection, comprising:

sending means for sending a multiple connections and unreliable datagram resolutions communication management request from a first process within the plurality of processes via a communication establishment message to an adapter associated with a second process within the plurality of processes;

retrieving means for retrieving the multiple connections and unreliable datagram resolutions communication establishment request, under control of the adapter, via the communication establishment message from the host; and

initiating means, responsive to the second process within the plurality of processes allowing the communication management request, for initiating, under

control of the adapter, multiple communication connections and unreliable datagram resolutions.

20. A system, operable in a data processing system having a plurality of processes, for performing a communication connection, comprising:

receiving means for receiving a multiple connections and unreliable datagram resolutions communication management request from a first process within the plurality of processes via a communication establishment request message to an adapter associated with a second process within the plurality of processes;

sending means for sending a multiple connections and unreliable datagram resolutions reply communication establishment message, under control of the adapter, to the first process within the plurality of processes; and

establishing means, responsive to the second process within the plurality of processes receiving the reply communication establishment message from the first process within the plurality of processes, for establishing multiple communication connections and unreliable datagram resolutions between the first process within the plurality of processes and the second process within the plurality of processes.

21. A computer program product in a computer-readable medium for performing a communication connection, comprising:

instructions for sending a multiple connections and unreliable datagram resolutions communication management request from a first process within the plurality of processes via a communication establishment message to an

adapter associated with a second process within the plurality of processes;

instructions for retrieving the multiple connections and unreliable datagram resolutions communication establishment request, under control of the adapter, via the communication establishment message from the host; and

instructions, responsive to the second process within the plurality of processes allowing the communication management request, for initiating, under control of the adapter, multiple communication connections and unreliable datagram resolutions.

22. A computer program product in a computer-readable medium for performing a communication connection, comprising:

instructions for receiving a multiple connections and unreliable datagram resolutions communication management request from a first process within the plurality of processes via a communication establishment request message to an adapter associated with a second process within the plurality of processes;

instructions for sending a multiple connections and unreliable datagram resolutions reply communication establishment message, under control of the adapter, to the first process within the plurality of processes; and

instructions, responsive to the second process within the plurality of processes receiving the reply communication establishment message from the first process within the plurality of processes, for establishing multiple communication connections and unreliable datagram resolutions between the first process

within the plurality of processes and the second process within the plurality of processes.